[redacted] [redacted]

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,952	03/03/2000	David Critz	04899-035001	7655

26161 7590 08/26/2003

FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER
THANGAVELU, KANDASAMY

ART UNIT	PAPER NUMBER
2123	10

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PR4

Office Action Summary	Application No. 09/517,952	Applicant(s) CRITZ ET AL.	
	Examiner Kandasamy Thangavelu	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-20,22-36 and 38-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-20,22-36 and 38-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This communication is in response to the Applicants' Amendment dated July 24, 2003. Claims 1, 4, 5, 16, 19, 32, 33, 35 and 52 were amended. Claims 3, 21, and 37 were deleted. Claims 1-2, 4-20, 22-36 and 38-52 of the application are pending in the application.

Response to Amendments

2. Applicant's arguments filed on July 24, 2003 have been fully considered. Applicant's arguments, filed on June 11, 2002 under 35 U.S.C. 103 (a) are not persuasive. Therefore, this office action is made final.

Drawings

3. The draft person has objected to the drawings; see a copy of Form PTO-948 for an explanation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

5. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 2, 8, 12, 13, 15, 16, 18- 20, 26, 30, 32, 34-36, 42, 46, 47, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Young et al.** (YO) (ACM, 2000) in view of **Weitz** (WE) (IEEE, 1998).

6.1 YO teaches a knowledge based electronic information and documentation system. Specifically, as per Claim 1, YO teaches a method for generating a report (Page 280, Col 1, Para 1); comprising:

generating a report as a function of the processed reporting components (Page 280, Col 1, Para 1; Page 281, Col 1, Para 4); and

the reporting components bi-directionally communicating with the computing environment, the bi-directional communication being possible during the simulation of the

simulation model (Page 280, Col 2, Para 2, Lines 4-6; Page 281, Col 1, Para 3, Lines 2-11; Page 282, Col 2, Para 2, Lines 1-4).

YO teaches defining a set of reporting components that can be assembled to form a report (Page 280, Col 1, Para 1, Lines 10-16). YO does not expressly teach defining a set of reporting components that can be assembled to form a report template. WE teaches defining a set of reporting components that can be assembled to form a report template (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1), as that facilitates selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document (Page 3, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO with the method of WE that included defining a set of reporting components that can be assembled to form a report template, as that would facilitate selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document.

YO teaches processing the reporting components to perform one or more operations within a technical computing environment, the computing environment defining at last one simulation model (Page 280, Col 1, Para 1, Lines 1-16; Page 280, Col 2, Para 1 and Para 2; Page 281, Col 1, Para 3, Lines 2-11 and Para 7, Lines 1-7; Page 282, Col 2, Para 2, Lines 1-4). YO does not expressly teach processing the reporting components of the report template to perform one or more operations within a technical computing environment, the computing environment defining at last one simulation model. WE teaches processing the reporting components of the report template to perform one or more operations (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1), as that facilitates selecting document instances or parts of them and defining document

processing operations using the logical tree structure of the document (Page 3, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to combine the method of YO that included processing the reporting components to perform one or more operations within a technical computing environment, the computing environment defining at last one simulation model with the method of WE that included processing the reporting components of the report template to perform one or more operations, as that would facilitate selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document.

6.2 As per Claim 2, YO and WE teach the method of Claim 1. YO also teaches that defining the set of reporting components includes defining flow control components that control an order for processing the reporting component (Page 282, Col 1, Para 7 to Page 282, Col 2, Para 2; Page 284, C1, Para 6 to Col 2, Para 2).

6.3 As per Claim 8, YO and WE teach the method of Claim 1. YO also teaches that processing the reporting components includes requesting data from a simulator (Page 280, Col 1, Para 2; Page 281, Col 1, Para 3, Lines 2-11).

6.5 As per Claim 12, YO and WE teach the method of Claim 1. YO also teaches that generating the report includes generating an intermediate representation of the report and transforming the intermediate representation into an electronic document according to a user-selected format (Page 280, Col 1, Para 1; Page 281, Col 1, Para 4).

6.6 As per Claim 13, YO and WE teach the method of Claim 12. YO does not expressly teach that generating an intermediate representation of the report includes generating a report in one of the following formats: Extensible Markup Language or Standard Generalized Markup Language. WE teaches that generating an intermediate representation of the report includes generating a report in one of the following formats: Extensible Markup Language or Standard Generalized Markup Language (Page 2, Col 1, Para 2; Page 2, Col 2, Para 4), as that facilitates defining the logical structure of the document using a tree structure thus facilitating efficient automated document retrieval and processing (Page 2, Col 1, Para 2; Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO with the method of WE that included generating an intermediate representation of the report including generating a report in one of the following formats: Extensible Markup Language or Standard Generalized Markup Language, as that would facilitate defining the logical structure of the document using a tree structure thus facilitating efficient automated document retrieval and processing.

6.7 As per Claim 15, YO and WE teach the method of Claim 1. YO does not expressly teach that the reporting components can be hierarchically assembled to form the report. WE teaches that the reporting components can be hierarchically assembled to form the report (Page 2, Col 2, Para 4), as that facilitates efficient automated document retrieval and processing (Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO with the method of WE that included the

reporting components hierarchically assembled to form the report, as that would facilitate efficient automated document retrieval and processing.

6.8 As per Claim 16, YO and WE teach the method of Claim 1. YO also teaches that processing the reporting components includes processing each component according to behavior defined by an ancestor component within the hierarchy (Page 280, Col 2, Para 2).

6.9 As per Claim 18, YO and WE teach the method of Claim 1. YO does not expressly teach that the report template refers to a second report template, and further wherein the reporting components are processed as a function of results from processing the second report template. WE teaches that the report template refers to a second report template, and further wherein the reporting components are processed as a function of results from processing the second report template (Page 2, Col 2, Para 4; Page 3, Col 2, Para 4), as that facilitates utilization of the logical organization of the documents as tree structure for efficient automated document retrieval and processing (Page 2, Col 1, Para 2 and Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO with the method of WE that included the report template referring to a second report template, and the reporting components being processed as a function of results from processing the second report template, as that would facilitate utilization of the logical organization of the documents as tree structure for efficient automated document retrieval and processing.

6.10 As per Claim 19, YO teaches a report generation computer program, tangibly stored on a computer-readable medium, for generating a report from a model simulation (Page 280, Col 1, Para 1). YO and WE teach all the claim limitations of Claim 19, as explained in Paragraph 6.1 above, the limitations being same as in Claim 1.

6.11 As per Claims 20, 26, 30 and 32, these are rejected based on the same reasoning as Claims 2, 8, 12 and 15, supra. Claims 20, 26, 30 and 32 are computer program implementing the methods reciting the same limitations as Claims 2, 8, 12 and 15, as taught throughout by YO and WE.

6.12 As per Claim 34, YO and WE teach the computer program product of Claim 15. YO does not expressly teach that the report generation computer program provides that the report template can reference one or more other report templates in sequence, and further wherein the results of processing one of the report templates is a function of the simulation results from processing report templates earlier in the sequence. WE teaches that the report generation computer program provides that the report template can reference one or more other report templates in sequence, and further wherein the results of processing one of the report templates is a function of the simulation results from processing report templates earlier in the sequence (Page 2, Col 2, Para 4; Page 3, Col 2, Para 4), as that facilitates utilization of the logical organization of the documents as tree structure for efficient automated document retrieval and processing (Page 2, Col 1, Para 2 and Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the computer program

product of YO with the computer program product of WE that included the report generation computer program providing that the report template could reference one or more other report templates in sequence, and further wherein the results of processing one of the report templates was a function of the simulation results from processing report templates earlier in the sequence, as that would facilitate utilization of the logical organization of the documents as tree structure for efficient automated document retrieval and processing.

6.13 As per Claim 35, YO teaches a system comprising a technical computing environment, a model simulator and a report generator executing within an operating environment provided by a computer (Page 280, Col 1, Para 1); and

the reporting components in bi-directionally communication with the simulation model, the bi-directional communication being possible during the simulation of the simulation model (Page 280, Col 2, Para 2, Lines 4-6; Page 281, Col 1, Para 3, Lines 2-11; Page 282, Col 2, Para 2, Lines 1-4).

YO teaches the operating environment defining at last one simulation model, wherein the report generator defines a set of reporting components that can be assembled to form a report (Page 280, Col 1, Para 1). YO does not expressly teach the operating environment defining at last one simulation model, wherein the report generator defines a set of reporting components that can be assembled to form a report template. WE teaches the operating environment defining at last one simulation model, wherein the report generator defines a set of reporting components that can be assembled to form a report template (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1), as that facilitates selecting document instances or parts of them and defining document

processing operations using the logical tree structure of the document (Page 3, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO with the system of WE that included the report generator that defines a set of reporting components that can be assembled to form a report template, as that would facilitate selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document.

YO teaches the report generator includes a generation engine to processes the reporting components of the report to extract data from the computing environment and the model simulator in order to generate a report (Page 280, Col 1, Para 1, Lines 1-16; Page 280, Col 2, Para 1 and Para 2; Page 281, Col 1, Para 3, Lines 2-11 and Para 7, Lines 1-7; Page 282, Col 2, Para 2, Lines 1-4). YO does not expressly teach the report generator includes a generation engine to processes the reporting components of the report template to extract data from the computing environment and the model simulator in order to generate a report. WE teaches the report generator includes a generation engine to processes the reporting components of the report template to extract data from the computing environment and the model simulator in order to generate a report (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1), as that facilitates selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document (Page 3, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to combine the system of YO with the system of WE that included processing the reporting components of the report template to extract data from the computing environment and the model simulator in order to generate a

report, as that would facilitate selecting document instances or parts of them and defining document processing operations using the logical tree structure of the document.

6.14 As per Claim 36, YO and WE teach the system of Claim 35. YO also teaches that the set of reporting components includes defining flow control components that control an order for processing the reporting component (Page 282, Col 1, Para 7 to Page 282, Col 2, Para 2; Page 284, C1, Para 6 to Col 2, Para 2).

6.15 As per Claim 42, YO and WE teach the system of Claim 35. YO also teaches that the generation engine issues commands to the computing environment in order to requesting data from the model simulator (Page 280, Col 1, Para 2; Page 281, Col 1, Para 3, Lines 2-11).

6.16 As per Claim 46, YO and WE teach the system of Claim 35. YO also teaches that the generation engine generates the report in an intermediate representation, and wherein the report generator further comprises a transformation engine to transform the intermediate representation into an electronic document according to a user-selected forma (Page 280, Col 1, Para 1; Page 281, Col 1, Para 4).

6.17 As per Claim 47, YO and WE teach the system of Claim 35. YO does not expressly teach that the intermediate representation of the report is in one of the following formats: Extensible Markup Language or Standard Generalized Markup Language. WE teaches that the intermediate representation of the report is in one of the following formats: Extensible Markup

Language or Standard Generalized Markup Language (Page 2, Col 1, Para 2; Page 2, Col 2, Para 4), as that facilitates defining the logical structure of the document using a tree structure thus facilitating efficient automated document retrieval and processing (Page 2, Col 1, Para 2; Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO with the system of WE that included the intermediate representation of the report being in one of the following formats: Extensible Markup Language or Standard Generalized Markup Language, as that would facilitate defining the logical structure of the document using a tree structure thus facilitating efficient automated document retrieval and processing.

6.18 As per Claim 50, YO and WE teach the system of Claim 35. YO does not expressly teach a user interface by which a designer can hierarchically arrange the reporting elements to form the report template. WE teaches a user interface by which a designer can hierarchically arrange the reporting elements to form the report template (Page 2, Col 2, Para 4), as that facilitates efficient automated document retrieval and processing (Page 2, Col 2, Para 4). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO with the system of WE that included a user interface by which a designer could hierarchically arrange the reporting elements to form the report template, as that would facilitate efficient automated document retrieval and processing.

6.19 As per Claim 51, YO and WE teach the system of Claim 35. YO also teaches that the report generator processes each component according to behavior defined by ancestor component within the hierarchy (Page 280, Col 2, Para 2).

7. Claims 4-7, 9, 11, 14, 17, 22-25, 27, 29, 31, 33, 38-41, 43, 45, 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (YO) (ACM, 2000) in view of **Weitz** (WE) (IEEE, 1998), and further in view of **Lannert et al.** (LA) (U.S. Patent 6,101,489).

7.1 As per Claim 4, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes issuing instructions to the computing environment to modify operational parameters or initial conditions of the simulation model. LA teaches that processing the reporting components includes issuing instructions to the computing environment to modify operational parameters or initial conditions of the simulation model (Col 11, Lines 25-27; Col 89, Lines 54-57), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including issuing instructions to the computing environment to modify operational parameters or initial conditions of the simulation model, as that would allow the user to control the simulation by passing inputs into the

simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.2 As per Claim 5, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes reconfiguring the model by adding or removing a functional block from the simulation model. LA teaches that processing the reporting components includes reconfiguring the model by adding or removing a functional block from the simulation model (Col 11, Lines 25-27; Col 89, Lines 54-57), as that allows the user to modify the designs and interact with the simulation thus enabling rigorous testing prior to application construction (Col 26, Lines 11-23) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including reconfiguring the model by adding or removing a functional block from the simulation model, as that would allow the user to modify the designs and interact with the simulation thus enabling rigorous testing prior to application construction and as per YO, generating reports from the instances created by a run of the simulation system.

7.3 As per Claim 6, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes requesting data from a calculation workspace of the computing environment. LA teaches that processing the reporting components includes requesting data from a calculation workspace of the computing environment (Col 11,

Lines 29-33; Col 11, Lines 56-58), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including requesting data from a calculation workspace of the computing environment, as that would allow the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.4 As per Claim 7, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes evaluating expressions defined within the computing environment. LA teaches that processing the reporting components includes evaluating expressions defined within the computing environment (Col 11, Lines 56-58; Col 94, Lines 23-25), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including evaluating expressions defined within the computing environment, as that would allow the user to control the simulation by passing inputs into the

simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.5 As per Claim 9, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes requesting data from a graphics package. LA teaches that processing the reporting components includes requesting data from a graphics package (Col 94, Lines 12-23), as that allows the range of input data received over time to be used to create trend graphs (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including requesting data from a graphics package, as that would allow the range of input data received over time to be used to create trend graphs and as per YO, generating reports from the instances created by a run of the simulation system.

7.6 As per Claim 11, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes issuing commands to the simulator to advance a current state of the model simulator by one or more time steps. LA teaches that processing the reporting components includes issuing commands to the simulator to advance a current state of the model simulator by one or more time steps (Fig. 50; Col 94, Lines 23-25; Col 94, Lines 38-44; Col 94-Lines 55-60), as that allows the range of input data received over time to be used to create trend graphs (Col 11, Lines 25-27) and as per YO, generating

reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included processing the reporting components including issuing commands to the simulator to advance a current state of the model simulator by one or more time steps, as that would allow the range of input data received over time to be used to create trend graphs and as per YO, generating reports from the instances created by a run of the simulation system.

7.7 As per Claim 14, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that generating the report includes formatting the report as a function of a state of the simulation. LA teaches that generating the report includes formatting the report as a function of a state of the simulation (Col 93, Lines 53-64; Col 94, Lines 38-39), as that allows updating the reports as the simulation is executed (Col 93, Lines 53-64) and facilitates restarting the simulation playing back in time (Col 94, Lines 53-64). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included generating the report including formatting the report as a function of a state of the simulation, as that would allow updating the reports as the simulation was executed and facilitate restarting the simulation playing back in time.

7.8 As per Claim 17, YO and WE teach the method of Claim 1. YO also teaches that the reporting components are defined using classes, attributes, rules of inheritance and instantiation (Page 280, Col 2, Para 2). YO and WE do not expressly teach that the reporting components are

defined according to an object-oriented report programming language. LA teaches that the reporting components are defined according to an object-oriented report programming language (Col 5, Lines 24-27; Col 5, Lines 45-46; Col 9, Line 58 to Col 10, Line 11), as that allows significant reductions in the design and development effort of the software involved in automatic generation of the documents (Col 9, Lines 56-58). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of LA that included the reporting components defined according to an object-oriented report programming language, as that would allow significant reductions in the design and development effort of the software involved in automatic generation of the documents.

7.9 As per Claims 22-25, 27, 29, 31 and 33, these are rejected based on the same reasoning as Claim 4-7, 9, 11, 14 and 17, supra. Claims 22-25, 27, 29, 31 and 33 are computer program claims implementing the methods and reciting the same limitations as Claims 4-7, 9, 11, 14 and 17, as taught throughout by YO, WE and AL.

7.10 As per Claim 38, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to the computing environment in order to modify operational parameters or initial conditions of the model. LA teaches that the generation engine issues commands to the computing environment in order to modify operational parameters or initial conditions of the model (Col 11, Lines 25-27; Col 89, Lines 54-57), as that allows the user to control the simulation by passing inputs into the simulation and receiving

outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to the computing environment in order to modify operational parameters or initial conditions of the model, as that would allow the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation and generating reports from the instances created by a run of the simulation system.

7.11 As per Claim 39, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to the computing environment in order to reconfigure the model by adding or removing a functional block from the model. LA teaches that the generation engine issues commands to the computing environment in order to reconfigure the model by adding or removing a functional block from the model (Col 11, Lines 25-27; Col 89, Lines 54-57), as that allows the user to modify the designs and interact with the simulation thus enabling rigorous testing prior to application construction (Col 26, Lines 11-23) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to the computing environment in order to reconfigure the model by adding or removing a functional block from the model, as that would allow the user to modify the designs and interact with the simulation thus enabling rigorous

testing prior to application construction and generating reports from the instances created by a run of the simulation system.

7.12 As per Claim 40, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to the computing environment in order to extract data from a calculation workspace of the computing environment. LA teaches that the generation engine issues commands to the computing environment in order to extract data from a calculation workspace of the computing environment (Col 11, Lines 29-33; Col 11, Lines 56-58), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to the computing environment in order to extract data from a calculation workspace of the computing environment, as that would allow the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.13 As per Claim 41, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to the computing environment in order to evaluate expressions defined within the computing environment. LA teaches that the generation engine issues commands to the computing environment in order to evaluate

expressions defined within the computing environment (Col 11, Lines 56-58; Col 94, Lines 23-25), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to the computing environment in order to evaluate expressions defined within the computing environment, as that would allow the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.14 As per Claim 43, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to the computing environment in order to request data from a graphics package. LA teaches that the generation engine issues commands to the computing environment in order to request data from a graphics package (Col 94, Lines 12-23), as that allows the range of input data received over time to be used to create trend graphs (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to the computing environment in order to request data from a graphics package, as that would allow the

range of input data received over time to be used to create trend graphs and as per YO, generating reports from the instances created by a run of the simulation system.

7.15 As per Claim 45, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to advance a current state of the simulated model one or more time steps. LA teaches that the generation engine issues commands to advance a current state of the simulated model one or more time steps (Fig. 50; Col 94, Lines 23-25; Col 94, Lines 38-44; Col 94-Lines 55-60), as that allows the range of input data received over time to be used to create trend graphs (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing commands to advance a current state of the simulated model one or more time steps, as that would allow the range of input data received over time to be used to create trend graphs and generating reports from the instances created by a run of the simulation system.

7.16 As per Claim 48, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine formats the report as a function of a state of the simulation. LA teaches that the generation engine formats the report as a function of a state of the simulation (Col 93, Lines 53-64; Col 94, Lines 38-39), as that allows updating the reports as the simulation is executed (Col 93, Lines 53-64) and facilitates restarting the simulation playing

back in time (Col 94, Lines 53-64). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine formatting the report as a function of a state of the simulation, as that would allow updating the reports as the simulation was executed and facilitate restarting the simulation playing back in time.

7.17 As per Claim 49, YO and WE teach the system of Claim 35. YO and WE do not expressly teach the generation engine issuing instructions to the simulator to modify operational parameters or initial conditions of the model. LA teaches the generation engine issuing instructions to the simulator to modify operational parameters or initial conditions of the model (Col 11, Lines 25-27; Col 89, Lines 54-57), as that allows the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation (Col 11, Lines 25-27) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the generation engine issuing instructions to the simulator to modify operational parameters or initial conditions of the model, as that would allow the user to control the simulation by passing inputs into the simulation and receiving outputs from the simulation and as per YO, generating reports from the instances created by a run of the simulation system.

7.18 As per Claim 52, YO and WE teach the system of Claim 35. YO also teaches that the report generator defines the reporting components using classes, attributes, rules of inheritance

and instantiation (Page 280, Col 2, Para 2). YO and WE do not expressly teach that the report generator defines the reporting components according to an object oriented report programming language. LA teaches that the report generator defines the reporting components according to an object oriented report programming language (Col 5, Lines 24-27; Col 5, Lines 45-46; Col 9, Line 58 to Col 10, Line 11), as that allows significant reductions in the design and development effort of the software involved in automatic generation of the documents (Col 9, Lines 56-58). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of LA that included the report generator defining the reporting components according to an object oriented report programming language, as that would allow significant reductions in the design and development effort of the software involved in automatic generation of the documents.

8. Claims 10, 28 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (YO) (ACM, 2000) in view of Weitz (WE) (IEEE, 1998), and further in view of Skidmore et al. (SK) (IEEE 1998).

8.1 As per Claim 10, YO and WE teach the method of Claim 1. YO and WE do not expressly teach that processing the reporting components includes issuing commands to the computing environment to simulate the model. SK teaches that processing the reporting components includes issuing commands to the computing environment to simulate the model (Page 6, Para 3), as that allows the user to control execution and recording of the computations in the simulation model (Page 5, Para 5) and as per YO, generating reports from the instances

created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the method of YO and WE with the method of SK that included processing the reporting components including issuing commands to the computing environment to simulate the model, as that would allow the user to control execution and recording of the computations in the simulation model and as per YO, generating reports from the instances created by a run of the simulation system.

8.2 As per Claim 28, it is rejected based on the same reasoning as Claim 10, supra. Claim 28 is computer program claim reciting the same limitations as Claim 10, as taught throughout by YO, WE and SK.

8.3 As per Claim 44, YO and WE teach the system of Claim 35. YO and WE do not expressly teach that the generation engine issues commands to simulate the mode. SK teaches that the generation engine issues commands to simulate the mode (Page 6, Para 3), as that allows the user to control execution and recording of the computations in the simulation model (Page 5, Para 5) and as per YO, generating reports from the instances created by a run of the simulation system (Page 281, Col 1, Para 3). It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the system of YO and WE with the system of SK that included the generation engine issuing commands to simulate the mode, as that would allow the user to control execution and recording of the computations in the simulation model and generating reports from the instances created by a run of the simulation system.

Arguments

9. As per the applicant's arguments, the applicant's attention is requested to the corresponding claim rejections. In addition, the following explanation is provided to further explain the examiner's position.

9.1 As per the applicant's argument that "Young et al. does not discuss the generation of report information during a simulation and/or prior to completion; it also does not discuss the bi-directional communication between the report generation process and the simulation sufficient to dynamically control aspects of the simulation for the purpose of the report; rather the report generated is based on a completed code generation process", the examiner respectfully disagrees.

YO teaches the generation of report information during a simulation and/or prior to completion (Page 280, Col 1, Para 1, Lines 1-16; Page 280, Col 2, Para 1 and Para 2; Page 281, Col 1, Para 3, Lines 2-11 and Para 7, Lines 1-7; Page 282, Col 2, Para 2, Lines 1-4). YO teaches the bi-directional communication between the report generation process and the simulation sufficient to dynamically control aspects of the simulation for the purpose of the report (Page 280, Col 2, Para 2, Lines 4-6; Page 281, Col 1, Para 3, Lines 2-11; Page 282, Col 2, Para 2, Lines 1-4).

9.2 As per the applicant's argument that "Weitz does not discuss the generation of a report during a simulation and/or prior to completion of a simulation; it also does not discuss the bi-directional communication between the report generation process and a simulation sufficient to dynamically control aspects of the simulation for the purpose of the report; Weitz is primarily

directed to the manipulation and formatting of documents", the examiner agrees with the applicants.

YO teaches defining a set of reporting components that can be assembled to form a report (Page 280, Col 1, Para 1, Lines 10-16). WE teaches defining a set of reporting components that can be assembled to form a report template (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1). YO teaches processing the reporting components to perform one or more operations within a technical computing environment, the computing environment defining at last one simulation model (Page 280, Col 1, Para 1, Lines 1-16; Page 280, Col 2, Para 1 and Para 2; Page 281, Col 1, Para 3, Lines 2-11 and Para 7, Lines 1-7; Page 282, Col 2, Para 2, Lines 1-4). WE teaches processing the reporting components of the report template to perform one or more operations (Page 3, Col 2, Para 4; Page 4, Col 1, Section 4.2.1).

9.3 As per the applicant's argument that "neither Young et al. nor Weitz includes bi-directional communication between reporting components and the technical computing environment during simulation of simulation model; while Young et al. discusses generating views of the object instances produced by the simulation, it does not discuss the generation of reports during simulation", the examiner requests the applicants' attention to Paragraphs 9.1 and 9.2 above.

9.4 As per the applicant's argument that "Lannert et al. does describe the execution of a program in a technical computing environment simulating complex simulation models; Lannert et al. also lacks the reporting components of the present invention and the compilation and

processing of the reporting components found in the present invention", the examiner respectfully disagrees. Lannert et al. uses a spreadsheet as the reporting component and describes the interaction between the simulation and the spreadsheet. See Fig. 2 and Col 94, Lines 10-60.

9.5 As per the applicant's argument that "Lannert et al. is not analogous art; a business model simulation is not analogous to a technical computing simulation; the claimed invention takes place in a technical computing environment; Lannert et al. provides some real time feedback, but lacks bi-directional communication during the simulation between defined reporting components and the technical computing environment; the combination of Young et al. and Weitz lacked all of the elements of the independent claims and Lannert does not supply the missing elements", the examiner respectfully disagrees. Lannert et al. is analogous art since a business model simulation is analogous to a technical computing simulation and the business simulation could involve both discrete event and continuous system simulation. Lannert et al. provides bi-directional communication during the simulation between defined reporting components and the technical computing environment (Fig. 2, and 47). The combination of Young et al. and Weitz provides all of the elements of the independent claims and Lannert et al. provides some of the elements provided by Young et al.

9.6 As per the applicant's argument that "the Skidmore reference does not discuss the elements required by the independent claims of the present invention that were noted as missing from the Young et al., Weitz and Lannert et al. references", the examiner requests the applicants'

attention to paragraphs 9.1 and 9.2 above, as Young et al. and Weitz provide all the limitations of the independent claims. Skidmore reference is used in the dependent claims to show the control of simulation from the report generating components as shown in Paragraph 8.1 above.

Conclusion

ACTION IS FINAL

10. Applicant's arguments with respect to claim rejections under 35 USC § 103 (a) are not persuasive. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is

703-305-0043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska, can be reached on (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

K. Thangavelu
Art Unit 2123
August 14, 2003

KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER